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ABSTRACT

The Microcomputer Program Oriented Budgeting System (MICROCOMP POB) is an accounts payable system intended for use in school districts. The system is based on the general principles of encumbrance accounting and the use of multiple account numbers. For each account number, the primary information provided consists of year to date balances for appropriations, adjustments, encumbrances, liquidations, expenditures, and balance. Updates to these balances occur through the entry of individual transactions that are stored for reference. The system requires no special programming knowledge and has wide use for any school district in the accounts payable area. Individual options are included in categories of account editing capabilities, vendor editing capabilities, and accounting procedures. Equipment for the operation of the system is specified and the procedures explained. The system produces two forms of output: screen displays and five kinds of printed reports. A budget printout is illustrated. A narrative description of the flow chart for the MICROCOMP POB System is provided, followed by the file structure and sample operator-machine transactions. (MLF)

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A MODEL MICROCOMPUTER SOFTWARE PACKAGE FOR EDUCATIONAL PROGRAM-ORIENTED-BUDGETING

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EA 016 233

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The MICROCOMP POB[2] System (Microcomputer Program Oriented Budgeting System) is an accounts payable system intended for use in school districts. It currently runs on an Apple II Plus Microcomputer having a minimum of 64K RAM, two floppy disk drives, and a printer.

The system is based on the general principles of encumbrance accounting and the use of multiple account numbers. For each account number, the primary information provided consists of year to date balances for appropriations, adjustments, encumbrances, liquidations, expenditures, and balance. Updates to these balances occur through the entry of individual transactions which are stored for reference. The system has wide use for any school district in the accounts payable area.

The system is designed to be user friendly, that is, it requires no special programming knowledge. The system will prompt the user for each piece of information as required, and controls for input errors. The user simply supplies the appropriate answer.

Individual Options presently include:

A. Account editing capabilities
    1) Addition of accounts
    2) Account display
    3) Edit of account alpha description

B. Vendor editing capabilities
    1) Addition of new vendors
    2) Edit of vendor information
    3) Display of vendor information

[2]Microcore, Inc., 56 Brambach Avenue, Scarsdale, NY 10583

C) Accounting Procedures

1) Appropriation adjustments
2) Encumbrances
3) Liquidations
4) Payroll transactions
5) Expenditure transfers
6) Purchase orders
7) Purchase order change
8) Purchase order cancellations
9) Partial payments--by hand-drawn check
10) Full payments--by hand-drawn check
11) Partial payments--by machine printed check
12) Full payments--by machine printed check
13) Direct pay--hand-drawn
14) Direct pay--machine check
15) Voids
16) Refunds

The options listed are accessed by means of the input module. This module contains three subsections: one for account updates, one for vendor updates, and one for individual account entries. Each of these sections has its own menu. The user is asked to select the appropriate menu, and, from that menu, the specific type of transaction to be performed. The system will ask for the information needed for each type of transaction. Individual transactions are then filed in the transaction master file and the account balances are updated accordingly.

The operation of the system requires that two diskettes be present in the drives at all times. Drive 1 must contain the Microcomp Accounting Master Disk throughout the operation. This diskette contains the programs and several master files

which are needed for the system to function. Drive 2 must contain the Transaction Master Disk. This diskette is used to store the individual transactions as they are entered into the system. It also contains several utility files needed for the output modules.

The system produces two forms of output: screen display, and printed reports. Screen displays are accessed through the inquiry menu. These programs are designed primarily to provide the user with a method of making limited inquiries for individual items. Printed output is produced by making a choice from the report menu. The report module requires that a 132 column printer be connected to the system and turned on.

Output options presently include:

Reports - these include:

1) Budget line reports
2) Budget summaries
3) Account detail
4) Check registers
5) Vendor lists

In addition, screen displays may be produced for such fields as:

1) Account number
2) Vendor number
3) Transaction type

This menu driven program has a User's Guide to document the procedures necessary to use the program effectively, and the software can be adapted to handle the program coding structure in any state. FIGURE 5 illustrates a budget printout.

FIGURE 5

ACCT NO.	DESCRIPTION	ORIGINAL APPROPRIATION	APPROPRIATION ADJUSTMENTS	CURRENT APPROPRIATION	EXPENDITURES TO DATE	ENCUMBRANCES OUTSTANDING	UNENCUMBERED BALANCE	P.4
1103.1361003A	INSTR.EQUIP.-CLEV.	950.00	.00	950.00	.00	.00	950.00	
2**		950.00	.00	950.00	.00	.00	950.00	
1103.13		104708.00	.00	104708.00	.00	.00	104708.00	
1103.1351205A	FIELD TRIPS-QUARLES	1450.00	.00	1450.00	.00	.00	1450.00	
5**		1450.00	.00	1450.00	.00	.00	1450.00	
1103.1361003A	TEACH.SUPPL.-CLEV.	200.00	.00	200.00	.00	.00	200.00	
1103.1361004A	TEACH.SUPPL.-LINC.	931.00	.00	931.00	.00	.00	931.00	
1103.1361005A	TEACH.SUPPL.-QUARLES	706.00	.00	706.00	.00	.00	706.00	
1103.1361006A	TEACH.SUPPL.-ROOSV.	1000.00	.00	1000.00	.00	.00	1000.00	
1103.1364004A	TEXTBOOKS-LINC.	200.00	.00	200.00	.00	.00	200.00	
1103.1364005A	TEXTBOOKS-QUARLES	100.00	.00	100.00	.00	.00	100.00	
1103.1365006A	REFERENCE BOOKS	70.00	.00	70.00	.00	.00	70.00	
1103.1366006A	PERIODICALS-ROOSV.	150.00	.00	150.00	.00	.00	150.00	
1103.1369005A	A.V./SOFTWARE-QUAR.	309.00	.00	309.00	.00	.00	309.00	
1103.1369006A	A.V./SOFTWARE-ROOSV.	48.00	.00	48.00	.00	.00	48.00	
6**		3714.00	.00	3714.00	.00	.00	3714.00	
1103.1373005A	INSTR.EQUIP.-QUARLES	335.00	.00	335.00	.00	.00	335.00	
1103.1373006A	INSTR.EQUIP.-ROOSV.	200.00	.00	200.00	.00	.00	200.00	
7**		535.00	.00	535.00	.00	.00	535.00	
1103.13		5699.00	.00	5699.00	.00	.00	5699.00	
1103.1344005A	FILM RENTALS-QUARLES	99.00	.00	99.00	.00	.00	99.00	
4**		99.00	.00	99.00	.00	.00	99.00	
1103.1351205A	FIELD TRIPS-QUARLES	800.00	.00	800.00	.00	.00	800.00	
5**		800.00	.00	800.00	.00	.00	800.00	
1103.1361003A	SUPPLIES-CLEV.	488.00	.00	488.00	.00	.00	488.00	
1103.1361004A	SUPPLIES-LINC.	625.00	.00	625.00	.00	.00	625.00	
1103.1361005A	SUPPLIES-QUARLES	600.00	.00	600.00	.00	.00	600.00	
1103.1361006A	SUPPLIES-ROOSV.	600.00	.00	600.00	.00	.00	600.00	
1103.1364003A	TEXTBOOKS-CLEV.	3250.00	.00	3250.00	.00	.00	3250.00	
1103.1364004A	TEXTBOOKS-LINC.	3300.00	.00	3300.00	.00	.00	3300.00	
1103.1364005A	TEXTBOOKS-QUARLES	1987.00	.00	1987.00	.00	.00	1987.00	
1103.1364006A	TEXTBOOKS-ROOSV.	1350.00	.00	1350.00	.00	.00	1350.00	
1103.1366004A	PERIODICALS-LINC.	550.00	.00	550.00	.00	.00	550.00	
1103.1366006A	PERIODICALS-ROOSV.	300.00	.00	300.00	.00	.00	300.00	
1103.1369004A	A.V./SOFTWARE-LINC.	350.00	.00	350.00	.00	.00	350.00	
1103.1369006A	A.V./SOFTWARE-ROOSV.	350.00	.00	350.00	.00	.00	350.00	
6**		13750.00	.00	13750.00	.00	.00	13750.00	
1103.13		14649.00	.00	14649.00	.00	.00	14649.00	
1103.1811203A	INSTR.SAL.-CLEVELAND	479937.00	.00	479937.00	.00	.00	479937.00	
1103.1811204A	INSTR.SAL.-LINC.	406061.00	.00	406061.00	.00	.00	406061.00	
1103.1811205A	INSTR.SAL.-QUARLES	314592.00	.00	314592.00	.00	.00	314592.00	
1103.1811206A	INSTR.SAL.-ROOSV.	256618.00	.00	256618.00	.00	.00	256618.00	
1103.1811403A	INSTR.SAL.-AIDES-CLEV.	79052.00	.00	79052.00	.00	.00	79052.00	
1103.1811404A	INSTR.SAL.-AIDES-LINC.	96713.00	.00	96713.00	.00	.00	96713.00	

POB SYSTEM DESCRIPTION

The following is a narrative description of the flow chart for the MICRO-COMP POB System.

1) Sign on

Load the Hello program.

Print descriptive information.

Ask for security code. If it matches, continue. If not, abort.

Load Master Menu program.

2) Master Menu

Ask which module (Inquiry, Update, Reports).

If update, ask Account File, Vendor File, Transaction File.

Load appropriate sub-menu.

3) Sub-menus

A) Inquiry - ask Account or Transactions.

If accounts, run account display program.

If transactions, run transaction display.

Each of these programs reads the account master file.

The account display prints balances only for each account.

The transaction display finds the beginning of the transaction chain for the account entered, and reads the year to date file. It then displays a detailed listing for this account on the screen.

B) Update - ask Account, Transaction, or Vendor.

Account sub-menu loads appropriate program to add, display, or edit individual account records.

Transaction sub-menu loads appropriate program to enter information into the transaction files, and updates the account balance in the account master file.

Vendor sub-menu loads appropriate program to add, display, or edit individual vendor records.

Each program displays information on the screen, edits information entered for validity (e.g., account number must be in proper format and have correct number of digits, vendor name must be less than maximum characters, etc. See user manual for exact input specifications.).

Each type of transaction input has a specific sub-program to handle it. For example, options 9 through 12 are for the input of check information. The check program handles these options. Option 6 is for the input of purchase order information. The p.o. program handles input for this option.

C) Reports - ask Reports or Checks

The report sub-menu will display the types of reports available. If the user chooses a report which needs to sort the file, the program will automatically run the appropriate sort program and rewrite the account master records into a temporary file. The corresponding report program prints from this file. The account master file is always maintained in numeric order.

The check routine consists of several programs which are chained together. The first extracts from the transaction file any check record which has "to be paid" as a check number. The second program produces a listing of the checks which will be printed. The fourth program prints the checks, and updates the transaction file with the check numbers. The last program produces the check register.

FILE STRUCTURE

The file structures for the MICROCOMP POB programs are as follows:

1) Account Master File - one account per record.

Record length = 140

Account number - 13 characters

Account description - 25 characters

Pointers to transaction information chain.

These are in the format RRR = record numbers in the transaction files.

An eight by two digit matrix, where:

A(1,1)+A(1,2)=Original Appropriation

A(2,1)+A(2,2)=Adjustments (ytd)

A(3,1)+A(3,2)=Current Appropriation

A(4,1)+A(4,2)=Encumbrances (ytd)

A(5,1)+A(5,2)=Liquidations (ytd)

A(6,1)+A(6,2)=Expenditures (ytd)

A(7,1)+A(7,2)=Outstanding Encumbrance

A(8,1)+A(8,2)=Unencumbered Balance

2) Vendor Master File - one vendor per record.

Record length = 150

Vendor number - 6 digits

Vendor name - 35 characters

Vendor address - 31 characters

City - 30 characters

State - 6 characters

Zip Code - 9 characters

Telephone - 10 characters

1099 code - 1 character

Social Security - 9 characters

3) Transaction File - approximately 5 transactions per record.

Each transaction stores a set number of types of information as numerics.

The types are as follows:

1) Adjustments - option # (1), input date, adjustment amount, authorization code.

2) Encumbrance - option # (2), input date, encumbrance amount, authorization.

3) Liquidation - option # (3), input date, liquidation amount, authorization.

4) Payroll - option # (4), input date, liquidation amount, expenditure amount, authorization.

5) Expenditure transfer - option # (5), input date, expenditure amount, authorization.

6) Purchase order - option # (6), input date, p.o. number, vendor number, original encumbrance amount, outstanding encumbrance amount, issue date, status field (open, paid, cancelled).

7) Purchase Order Change - no storage.

8) Purchase Order Cancellation - option # (8), input date, p.o. number, vendor number, encumbrance amount.

9) Checks - option # (9-12), input date, p.o. number, vendor number, liquidation amount, payment amount, check number, invoice number, check date, status (open, void).

10) Direct Payments - option # (13, 14). Same as checks, except does not store liquidation amount.

11) Void or Refund - option # (15 or 16), input date, p.o. number, vendor number, expenditure amount, check number.

All of these are translated to numbers, and are stored in a 40 digit matrix, one matrix per transaction record. The transactions take up 38 digits of the matrix; the last two digits are pointers to other records in the chain for this account.

Input Specifications

Account Information

Budget Code -- 11 numeric positions, 1 alpha position, as follows:

Fund	Program	Object	Location
A	nnnn.nn	nnn	nn

Account Description -- 25 positions, alphanumeric:

Vendor Information

Vendor Number -- maximum of 6 digits.

Vendor Name -- maximum of 35 alpha.

Street -- maximum of 31 alphanumerics.

City/Town -- maximum of 30 alphanumerics.

State -- maximum of 6 alphanumerics.

Zip Code -- maximum of 9 alphanumerics.

Telephone -- maximum of 10 alphanumerics.

*1099 Code -- 1 alphanumeric.

Social Security Number -- 9 digits.

*1099 and Social Security Number are used to identify consultants.

Transaction Information

Purchase Order Numbers -- maximum of 6 digits.

Check Numbers -- maximum of 6 digits.

Invoice Numbers -- maximum of 8 alphanumerics.

Dates -- 6 digits.

Dollar Amounts -- 10 digits (8 dollar positions, 2 cents positions).

Directory Information

Summary Heading Code -- maximum of 6 digits.

Summary Description -- 25 positions, alphanumeric.

INQUIRY MENU

1) ACCOUNT DISPLAY

2) TRANSACTION DISPLAY

ENTER YOUR CHOICE: 1

ACCNT NO. / CURR.APPROPR.	DESCRIPTION / EXPEND.	OUTS.ENCUMB.	BALANCE
1103.1865003A	CLEVELAND-LIBRARY BOOKS		
1000.00	.00	.00	1000.00
1103.1865004A	LINCOLN-LIBRARY BOOKS		
1500.00	.00	.00	1500.00
1103.1865005A	QUARLES-LIBRARY BOOKS		
1000.00	.00	.00	1000.00
1103.1865006A	ROOSEVELT-LIBRARY BOOKS		
1000.00	.00	.00	1000.00

CONTINUE: YES

ENTER YOUR CHOICE: 2

ACCOUNT NO.: 1103.1865000A

DATE	P.O.	VEND.	DESCRIPTION NAME	TR	INVOICE	CURRENT APPROP. CK DATE	NO.
ADJUSTMENT			ENCUMBRANCE	LIQUIDATION		EXPENDITURE	
1103.1865000A			LIBRARY BOOKS			1000.00	
070982	2011	1000	SCHOLASTIC BOOKS	06			
			25.00				
080282	2011	1000	SCHOLASTIC BOOKS	10		082082	000100
				25.00		27.50	
090182							
100.00							
**TOTAL							
1103.1865000A						1100.00	
100.00			25.00	25.00		27.50	

UPDATE MENU

1) ACCOUNT FILE MAINTENANCE

2) VENDOR FILE MAINTENANCE

3) TRANSACTION INPUT

ENTER YOUR CHOICE: 1

ACCOUNT FILE MAINTENANCE

THE FOLLOWING OPTIONS ARE AVAILABLE:

1) ADD ACCOUNT RECORDS

2) DISPLAY ACCOUNT

3) CHANGE DESCRIPTION

ENTER YOUR CHOICE:? 1

OPTION 1

TITLE: ADD ACCOUNT

USE: This option is used throughout the year to create a new account master record.

REQUIRES:
ACCOUNT NUMBER
ACCOUNT DESCRIPTION
APPROPRIATION AMOUNT

This option creates an Account Master record and places the amount entered in the Original and Current Appropriation fields. The user may enter 0 for the Appropriation amount.

NOTE: Enter ϕ for Account Number to return to Account File Maintenance Menu.

OPTION 2

TITLE: DISPLAY ACCOUNT

USE: This option is used to display the year-to-date account figures.

REQUIRES: ACCOUNT NUMBER

This option displays the Original Appropriation, Adjustments, Current Appropriation, Encumbrance, Liquidation, Expenditure, Outstanding Encumbrance, and Unencumbered Balance figures.

This option does not update. It may be used at any time.

NOTE: Enter ϕ for Account Number to return to Account Maintenance Menu.

OPTION 3

TITLE:	CHANGE ACCOUNT DESCRIPTION
USE:	This option is used to change the description of an account already on file.
REQUIRES:	ACCOUNT NUMBER REVISED DESCRIPTION
PURPOSE:	This option changes the alpha description which prints for this account number.
COMMENTS:	Enter the account numbers for the desired account. Enter the new description.
NOTE:	Enter ϕ for Account Number to return to Account Maintenance Menu.

UPDATE MENU

1) ACCOUNT FILE MAINTENANCE

2) VENDOR FILE MAINTENANCE

3) TRANSACTION INPUT

ENTER YOUR CHOICE: 2

VENDOR FILE MAINTENANCE

THE FOLLOWING OPTIONS ARE AVAILABLE:

1) ADD VENDOR RECORDS

2) DISPLAY VENDORS

3) EDIT VENDORS

4) PRINT VENDOR LIST

ENTER YOUR CHOICE:? 1

OPTION 1

TITLE: VENDOR ADD

USE: This option is used to add new vendor information to the file.

REQUIRES:
VENDOR NUMBER
LAST NAME
FIRST NAME
STREET NAME
CITY/TOWN
STATE
ZIP CODE
TELEPHONE NUMBER
1099 CODE
SOCIAL SECURITY NUMBER

PURPOSE: Adds the information to the vendor file.

COMMENTS: The only fields which are required by the system are the vendor number and name. Enter a period (.) for any fields you wish to leave blank.

The telephone number field, when used, requires an area code.

For further instructions, see the section on Input Specifications.

NOTE: Enter ϕ for Vendor Number to return to Vendor Maintenance Menu.

OPTION 2

TITLE:	DISPLAY VENDOR
USE:	This option is used to display information currently on file for a single vendor.
REQUIRES:	VENDOR NUMBER
PURPOSE:	Displays Vendor Name, Street Address, City, State, Zip Code, Telephone Number, 1099 Code, and Social Security Number of the given vendor.
COMMENTS:	This option does not update, and may be used at any time. One vendor will be displayed per screen.
NOTE:	Enter ϕ for Vendor Number to return to Vendor Maintenance Menu.

OPTION 3

TITLE:	EDIT VENDORS
USE:	This option is used to edit vendor information previously entered.
REQUIRES:	VENDOR NUMBER
PURPOSE:	Replaces previously filed information with new information.
COMMENTS:	The system will display the vendor information currently on file for the vendor number entered. Only that information which must be replaced need be entered. Enter the number of the field to be edited, and enter the new information. The vendor number cannot be changed. The vendor name cannot be blank.
NOTE:	Enter ϕ for Vendor Number to return to Vendor Maintenance Menu.

OPTION 4

TITLE: PRINT VENDOR LIST

USE: This option displays a list of vendor numbers and names on the screen.

NOTE: Enter ∅ to return to Vendor Maintenance Menu.

UPDATE MENU

1) ACCOUNT FILE MAINTENANCE

2) VENDOR FILE MAINTENANCE

3) TRANSACTION INPUT

ENTER YOUR CHOICE: 3

TRANSACTION MASTER MENU

THE FOLLOWING OPTIONS ARE AVAILABLE:

1)	ADJUSTMENT	9)	PART PAY-HAND
2)	ENCUMBRANCE	10)	FULL PAY-HAND
3)	LIQUIDATION	11)	PART PAY-MACH.
4)	PAYROLL	12)	FULL PAY-MACH.
5)	EXPEND.TRANSFER	13)	DIRECT PAY-HAND
6)	P.O. ISSUE	14)	DIRECT PAY-MACH.
7)	P.O. CHANGE	15)	CHECK VOID
8)	P.O. CANCEL	16)	REFUND

ENTER YOUR CHOICE:?___

5. REPORT MODULE

The report programs in this module are designed to run on the MX 100 printer. They are formatted for 132 print positions.

Upon choosing the Report Module, the system will display the following:

REPORT MODULE

1. REPORTS
2. CHECKS

ENTER YOUR CHOICE:

These sub-modules are outlined in the following sections.

REPORTS

Choosing option 1 (Reports) from the menu will cause the system to display the following:

REPORTS

1. BUDGET REPORTS (SUMMARY OR LINE ITEM)
2. REPORT BY PROGRAM
3. NEGATIVE BALANCE REPORT
4. DETAIL REPORT
5. EXPENDITURE REPORT

ENTER YOUR CHOICE:

Choose the number which corresponds to the report to be printed. The system will then type:

TURN ON PRINTER, SET PAPER, TYPE 'P' TO PRINT

Set the paper to the top of the form, turn the printer on, and type 'P' to begin printing. The program requires no further input from the user. It will return to the REPORT MENU upon completion.

NOTE: Option 2 (REPORT BY PROGRAM) will sort the files before displaying the TURN ON PRINTER message.

CHECKS

Report Option 2 (CHECKS) will perform the following steps:

1. Extract checks to be printed from the year to date transaction file.
2. Sort extracted information in vendor order.
3. Produce a list of checks to be printed.
4. Print checks.
5. Print check register.
6. Print bills list.

The only input required from the user is 'P' when a print routine is about to begin. The program will ask for a 'P' at step 3, step 4, step 5, and step 6. The program will pause at these points to allow the user to align the paper or checks in the printer. At the end of each step, the program will display a message on the screen (e.g., SORTING INFORMATION - PLEASE WAIT).

The program will return to the REPORT MENU upon completion of the check cycle.